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THE PTEROSTICHI OF THE UNITED STATES.

BY JOHN L. LECONTE, M.D.

Since the publication of my synopsis of the species of *Pterostichus* and allied genera inhabiting temperate North America,[1] the additions to our fauna have been quite appreciable, but what is of greater importance, by the kindness of friends in Europe, authentic specimens have been procured of most of the species which at that time were unknown to me. It has, therefore, appeared to me useful to place in a condensed form the results of a more recent study of the species in my collection, in order to facilitate the recognition of the numerous forms in this somewhat difficult genus.

I have, with greater material and more careful study, been obliged to modify the generic table given in the work just cited, to such an extent as to place *Pœcilus* as a minor group of *Pterostichus*, and to elevate *Piesmus*, on account of its absolutely simple mentum tooth, to the rank of a genus.

I would, therefore, propose this new scheme of arrangement.

Mandibles striate ; elytra with one dorsal puncture.	Evarthrus.
Mandibles not striate :	
Mentum tooth emarginate :	
Ligula carinate :	
Metathoracic episterna long.	Lophoglossus.
Metathoracic episterna short.	Holciophorus.
Ligula not carinate :	
Front tarsi of ♂ normally dilated.	Pterostichus.
Front tarsi of ♂ obliquely dilated.	Loxandrus.
Mentum tooth entire, rounded at tip.	Piesmus.

It is worthy of remark, that while in Europe many species occur in which the last ventral segment of the ♂ is crested or impressed, four have thus far been found in America. On the Pacific slope *Holciophorus ater* is the only example, and in the higher parts of the Alleghanies *P. mancus*, *diligendus*, and *lubricus*.

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[1] Journal Acad. Nat. Sci., Philada., 2d, ii. 225. (1852.)

PTEROSTICHUS.

Division 1. Dorsal punctures wanting ; marginal stria single.

A. Posterior tarsi stout, not grooved on the outer side ; epistoma and labrum emarginate ; prosternum feebly margined behind.
HAMMATOMERUS Chaud.

Joints of hind and middle tarsi ♂ ♀ inflated at tip.
1. *morionides* Chaud.

Joints of hind and middle tarsi ♂ ♀ normal. 2. *tarsalis* n. sp.

B. Posterior tarsi slender, first joint with two grooves and an intervening ridge on the outer side ; prosternum (except in *P. planctus*) strongly margined behind ; base of prothorax margined towards the sides.

A. Sides of prothorax crenato-dentate :

Prothorax feebly narrowed behind, basal foveæ large, bistriate, elytra opaque, deeply striate. 3. *crenicollis* n. sp.

B. Sides of prothorax entire, not serrate :

a. Prosternum scarcely margined behind :

Outer basal stria of prothorax distinct, humeri not dentiform.
4. *planctus* Lec.

b. Prosternum distinctly margined behind :

a. Prothorax feebly narrowed behind, and slightly sinuate on the sides, hind angles rectangular;

* Humeral angles dentiform :

Hind angles of prothorax distinctly carinate, outer basal stria long.
5. *herculaneus* Mann.

** Humeral angles not dentiform ; sides of elytra more rounded near the base :

Base of prothorax not depressed near the angles, outer stria a feebly impressed fovea ; *algidus* Lec. 6. *validus* Dej.

Base of prothorax flattened, more narrowed, outer stria short, feeble, general form more elongate ; *inornatus* Bland. 7. *protractus* Lec.

Base of prothorax less flattened; outer stria vague or wanting, sides of prothorax oblique, scarcely sinuate behind ; sides of elytra more parallel than in *validus ;*

Scutellar stria distinct (as in the other species of the group); *californicus* ‡ Lec. 8. *vicinus* Mann.

Scutellar stria very short ; form narrower. 9. *longulus* n. sp.

b. Prothorax scarcely narrowed behind, outer basal impression very short, humeri not dentiform, body small, narrow, sides of elytra parallel; *linearis* Lec. 10. *angustus* Dej.

c. Prothorax a little more narrowed behind, flattened at the base, sides scarcely subsinuate, hind angles rectangular, feebly explanate, inner basal stria long, outer one nearly obsolete ; humeri dentiform :

* Scutellar stria short :

Elytra with a purple reflection. 11. *amethystinus* Dej.

Elytra piceous or brownish-black; *brunneus* Dej. 12. *castaneus* Dej.

** Scutellar stria long, color black. 13. *scutellaris* n. sp.

C. Hind tarsi slender; prosternum margined at tip; prothorax with inner basal stria distinct, outer one wanting.

a. Base of prothorax margined towards the sides; humeral angles not dentiform, elytra parallel, sides but little rounded near the base; posterior tarsi with obsolete groove on outer side:

Elytral striæ rather fine, interspaces flat, prothorax rather convex, slightly wider than long, rounded on the sides, and not sinuate, base not narrower than tip; *amplicollis* Motsch, *simplex* Lec., *muticus* Lec.
14. *californicus* Dej.

b. Base of prothorax not at all margined:

a Posterior tarsi not grooved on the outer side; body less elongate:

Large, prothorax rather flat at base, and feebly narrowed behind, but scarcely sinuate on the sides, elytra not wider than prothorax, striæ fine, interspaces flat, not shining.
15. *Menetriesii* Motsch.

b First joint of posterior tarsi with two grooves and an intervening ridge: body elongate, slender, the prothorax being narrower than the elytra, and more narrowed behind:

* Scutellar stria long, (♂ with one, ♀ with two anal punctures each side, as usual):

Prothorax less narrowed behind, elytra more parallel; *contractus* Lec. 16. *castanipes* Mén.

Prothorax more narrowed behind, elytra elongate oval:

Hind angles rectangular:

Tarsal grooves extending on the second joint. 17. *Spraguei* n. sp.

Tarsal grooves only on first joint; *longicollis* ‖ Motsch. 18.. *gracilior* Lec.

Hind angles obtuse rounded at tip. 19. *Hornii* n. sp.

** Scutellar stria short, elytra elongate oval, deeply striate; (♂ ♀ with two anal punctures each side.)

Prothorax as wide as long, less narrowed behind, and sides less sinuate.
20. *Isabellæ* Lec.

Prothorax longer than wide, more narrowed and sinuate behind; *illustris* Lec. 21. *congestus* Mén.

D. Posterior tarsi slender, with the usual double groove and intervening ridge on the first joint, prosternum not margined at tip; head of usual size, prothorax narrowed behind, basal impressions linear, single.

a. Hind angles of prothorax rectangular; base not margined;

Tarsal grooves extending on the second joint, elytral striæ deep, humeri dentiform; *tristis* Dej., *interfector* Newm., *sustentus* Lec., *subarcuatus* Lec., *rejectus* Lec. 22. *adoxus* Say.

b. Hind angles of prothorax very small rectangular, base margined; *oregonus* ‖ Chaud. 23. *longicollis* Lec.

c. Hind angles of prothorax obtuse rounded. 24. *sphodrinus* Lec.

E. Posterior tarsi slender, without marginal grooves, prosternum not margined at tip ; head very large, hind trochanters very long ; prothorax quadrate, moderately narrowed behind, angles rectangular, base broadly foveate each side, not margined, outer stria distinct, with a slight carina.
Hind angles of prothorax more prominent, hind trochanters acute at tip. 25. *grandiceps* Chaud.
Hind angles of prothorax less prominent, hind trochanters rounded at tip ; *grandiceps* Lec. 26. *rostratus* Newm.

Division 2. One dorsal puncture on the third stria, behind the middle ; scutellar stria very short ; prosternum not margined behind.
A. Prothorax narrowed behind, hind angles subobtuse, basal striæ two, the outer one shorter:
Outer basal stria distinct, with a feeble carina : last ventral segment ♂ with a small tubercle near the tip. 27. *mancus* Lec.
Outer basal stria punctiform, without carina : last ventral segment ♂ with a broad apical impression. 28. *diligendus* Chaud.
B. Prothorax narrowed behind and sinuate on the sides, basal angles rectangular prominent, impressions linear deep, punctulate; elytra more broadly oval ; *fastiditus* Dej., *Stomis americana* Lap.
29. *honestus* Say.

Division 3. Elytra with several dorsal punctures ; palpi with the last joint cylindrical, truncate.
Episterna of metathorax short:
  Prosternum not margined behind ;
    Outer striæ of elytra finer ; dorsal punctures 3 :
      Scutellar stria long. A.
      Scutellar stria short. B.
    Elytral striæ equally deep:
      Prothorax narrowed behind, basal foveæ large : C.
      Prothorax wider behind, basal foveæ double, narrow ; dorsal punctures 3 ; Abacidus Lec. D.
  Prosternum margined behind ; prothorax wider behind, basal foveæ double, dorsal punctures 3 ; Peristethus Lec. E.
Episterna of metathorax long :
  Prosternum margined behind :
    Scutellar stria long, elytra sinuate at tip ; Poecilus. F.
  Prosternum not margined behind ; (scutellar stria long and elytral strongly sinuate at tip) ;
    Prothorax with basal foveæ bistriate, and hind angles carinate ; dorsal punctures 3 ; Omaseus. G.
    Prothorax with linear basal foveæ, hind angles not carinate :

Dorsal punctures 3; (hind tibiæ of ♂ usually hairy on inner side);
Dysidius Chaud. H.
Dorsal foveæ 5–6; Platysma. I.

A.

(Prothorax finely margined; two joints of hind and middle tarsi grooved on outer side: last ventral ♂ with a short high carina acute at tip).
Prothorax with linear basal impressions, narrowed behind, hind angles rectangular, elytral striæ very fine, scutellar long, but not well defined. 30. *lubricus* Lec.

B.

(Prothorax finely margined; tarsi not grooved on the outer side; prothorax much rounded on the sides, with short narrow basal impressions; sides of abdomen punctured:)
Hind angles of prothorax obtuse not rounded, striæ of elytra punctured, form stouter. 31. *tumescens* Lec.
Hind angles of prothorax obtuse and rounded, form less stout:
  Elytral striæ not punctured. 32. *obscurus* Say.
  Elytral striæ punctured; *cycloderus* Chaud. 33. *ventralis* Say.

C.

(Prothorax strongly margined; two or three joints of posterior tarsi grooved on the outer side:)
  a. Dorsal punctures 2:
Basal foveæ of prothorax linear, deep. 34. *lachrymosus* Nm.
Basal foveæ large:
  Hind angles carinate: more or less rounded;
    Foveæ without tubercle, *mœrens* Newm., *adjunctus* Lec., *flebilis* Lec. 35. *coracinus* Newm.
    Foveæ with tubercle; *bisigillatus* Harris, *rugicollis* Hald. 36. *stygicus* Say.[1]
  Hind angles not carinate, foveæ without tubercle; *protensus* Lec.[2] 37. *relictus* Newm.
  b. Dorsal punctures 4, hind angles of prothorax broadly rounded, basal foveæ large and deep;
Hind angles carinate, color purple, shining. 38. *superciliosus* Say.
Hind angles not carinate, color dull, nearly black. 39. *moestus* Say.
  c. Alternate interspaces interrupted by irregular lines and punctures. 40. *punctatissimus* Rand.

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[1] The type of *F. picipes* Newm. in the British Museum belongs to this species, but the description does not agree, and seems to refer rather to *Piesmus submarginatus;* there seems to have been some confusion of labels.

[2] The type of *F. relicta* Newn. in the British Museum belongs to this species; the description mentions six elytral punctures, three on each, an anomaly which exists in fact in the specimen.

D.

(Tarsi without grooves; body oval:)
Hind angles rectangular, scutellar stria long:
Basal foveæ and side margin of prothorax not punctured; body wider. 41. *fallax* Dej.
Basal foveæ and side margins punctured; body less wide; *striatus* Dej. 42. *sculptus* Lec.
Hind angles rounded, scutellar stria wanting:
Side margin much wider, impunctured. 43. *obesulus* n. sp.

E.

(Two joints of posterior tarsi finely grooved on outer side, body oval:)
Basal foveæ and side margin of prothorax feebly punctured. 44. *permundus* Say.

F.

(Antennæ with joints 1–3 strongly carinate; two or three joints of posterior tarsi grooved on the outer side; basal foveæ of prothorax double.)
a. Sides of prothorax not depressed:
* Prothorax distinctly narrowed behind, sides feebly sinuate:
Body impunctured beneath; outer basal fovea punctiform, feeble;
Larger, elytral striæ punctured, dorsal punctures 3. 45. *subcordatus* Lec.
Smaller, elytral striæ not punctured, dorsal punctures 2. 46. *scitulus* Lec.
Meso- and metathorax punctured beneath:
Outer basal foveæ larger, prothorax less narrowed behind, but more sinuate on the sides, dorsal punctures 2; *occidentalis* ‡ Chaud. 47. *lætulus* Lec.
** Prothorax very slightly narrowed behind, feebly or not at all sinuate on the sides: basal foveæ confluent, punctured:
Color dark metallic; hind angles of prothorax nearly rectangular, dorsal punctures 2–4; *cursitor* Lec. 48. *occidentalis* Dej.
Color black, hind angles nearly rectangular, dorsal punctures 2–4. Long. 12 mill.; Dacota. 49. *corvus* n. sp.
*** Prothorax feebly narrowed behind, basal foveæ not confluent, outer one small but deep, dorsal punctures 2; body beneath impunctured;
Prothorax as much narrowed before as behind; basal foveæ not punctured. 50. *cyaneus* Lec.
Prothorax more narrowed in front;
Antennæ piceous at base. 51. *texanus* Lec.
Antennæ ferruginous at base; *chalcites* ‖ Say. 52. *Sayi* Brullé.
b. Prothorax not narrowed behind, sides depressed, more widely towards the base: trunk punctured beneath;
Not polished, dorsal punctures 4:
Outer basal fovea distinct, color green or blue, or dull bronze, legs piceous or ferruginous. 53. *lucublandus* Say.

Outer basal fovea wanting, color blue, legs ferruginous. 54. *bicolor* Lec.

More convex and shining, dorsal punctures 3; feebly bronzed, legs piceous or ferruginous. 55. *convexicollis* Say.

G.

(Prothorax more or less narrowed behind, basal angles carinate, foveæ large and deep, bistriate, punctulate; elytra with 3 dorsal punctures, and long scutellar stria, sinuate near the tip, humeri dentiform; posterior tarsi with first joint feebly grooved on the outer side.)

Prothorax strongly narrowed behind, angles rectangular prominent:

Larger, very shining, basal foveæ impunctured, elytra iridescent, striæ fine. 56. *açutangulus* Chaud.

Smaller, basal foveæ punctulate, elytra more deeply striate; *nigrita* ‡ Kirby, *agrestis* Bland. 57. *caudicalis* (Say).

Prothorax less narrowed behind, angles small rectangular, slightly prominent; basal foveæ punctured; elytral striæ deep:

Still smaller, slender; *abjectus* Lec. 58. *luctuosus* Dej.

Broader and larger; *tenebrosus* Chaud. 59. *corvinus* Dej.

H.

(Posterior tarsi with 2 or 3 joints grooved on the outer side; prothorax moderately narrowed behind, angles not prominent, basal foveæ linear deep; elytra with three dorsal punctures, scutellar stria long, humeral angles not dentiform, tip sinuate.)

a. ♂ with inner side of hind tibiæ clothed with hair; 3 tarsal joints grooved;

Color purplish, basal impressions of prothorax not punctured, hind angles rather obtuse. 60. *purpuratus* Lec.

Color black, basal impressions of prothorax more or less punctured, angles small rectangular; *morosus* Dej., *picicornis* Kirby. 61. *mutus* Say.

b. ♂ with the hind tibiæ not hairy on the inner side; tarsal grooves less deep, not extending to the third joint;

Prothorax feebly sinuate on the sides behind, hind angles rectangular, basal foveæ feebly punctured. 62. *lustrans* Lec.

I.

(Posterior tarsi with 3 joints grooved, though sometimes not very deeply; prothorax with basal impressions linear, more or less punctured, angles rectangular or obtuse not rounded; elytra with 5 or 6 large dorsal punctures, humeri not dentiform, tip deeply sinuate, scutellar stria long. Species indefinite and opinionative, especially in the differences between *orinomum* and *Luczotii.*)

a. Elytra in both sexes shining:

Hind angles of prothorax small, prominent, dentiform. 63. *pensylvanicus* n. sp.

b. Elytra of ♀ dull, of ♂ shining:

Sides of prothorax more broadly depressed:

Sides of prothorax slightly sinuate behind, angles rectangular. 64. *vitreus* Dej.

Sides of prothorax oblique, angles obtuse; *adstricta* Dej., *oblongiuscula* Motsch., *obtusangula* Motsch. 65. *orinomum* Lec.

Sides of prothorax more narrowly depressed:

Sides of prothorax oblique, angles obtuse; 6-*punctatus* Mann, *seriepunctatus* Mann. 66. *Luczotii* Dej.

Larger, prothorax more narrowly margined, sides slightly sinuate behind, angles rectangular; *colligatus* Walker. 67. *oregonus* Lec.

Division 4. Elytra with dorsal punctures; palpi with the last joint elongate oval, scarcely truncate. (Small species.)

Prosternum finely margined behind:

Episterna of metathorax elongate:

Scutellar stria wanting:

Prothorax rounded, broadly margined; dorsal punctures 3. A.

Prothorax narrowed behind, finely margined; dorsal punctures 2. B.

Scutellar stria long; dorsal punctures 3; ARGUTOR. C.

Episterna of metathorax short, dorsal punctures 4–6:

Scutellar stria variable; CRYOBIUS. D.

A.

(Posterior tarsi with 4 joints grooved on the outer side. Body oval elongate, head rather small, prothorax nearly square with very rounded angles, sides widely depressed towards the base, basal impressions single deep, impunctured.)

Shining black, antennæ, palpi, and legs ferruginous; *Platyderus nitidus* Kirby. 68. *erythropus* Dej.

B.

(Posterior tarsi with 2 joints grooved on the outer side. Body of usual form, prothorax narrowed slightly behind, angles obtuse not rounded, basal impressions double, outer one punctiform; scutellar stria punctiform, dorsal punctures 2; prosternum margined at tip.)

Bronzed, antennæ, palpi, and legs ferruginous. 69. *splendidulus* Lec.

C.

(Posterior tarsi with three joints grooved on the outer side; prothorax feebly narrowed behind, angles not rounded, basal impressions single, base finely margined each side.

Elytral striæ impunctured; hind angles of prothorax subrectangular, slightly prominent, antennæ and legs dark ferruginous. 70. *patruelis* Dej.

Elytral striæ punctured as far as the middle; form less slender, hind angles more distinctly obtuse; antennæ and legs dark ferruginous, thighs usually piceous. α. Striæ strongly punctured; *desidiosus* Lec. β. Striæ indistinctly punctured. 71. *femoralis* Kirby.

Smaller, very shining, iridescent, elytral striæ obsoletely punctured; hind angles of prothorax obtuse not prominent, antennæ and feet bright ferruginous. 72. *corrusculus* n. sp.

D.

(Posterior tarsi with 3 joints grooved on the outer side; body elongate, prothorax moderately narrowed behind, basal angles subrectangular, occasionally prominent, impressions single or double, in the latter case the angles are sometimes feebly carinated; elytra elongate oval, or subovate, usually convex, dorsal punctures 2–6, but not very constant; humeral angles rounded, tip more or less sinuate, scutellar stria sometimes long, sometimes short, species in part opinionative and indistinct.)

a. Base of prothorax not margined near the hind angles; legs blackish.

* Base of prothorax between fovea and angle convex, or at least not flattened; elytra convex, scutellar stria long, dorsal punctures small:

Brassy, elytral striæ fine, first and second striæ connected behind by a deeper hook: outer basal impression punctiform, indistinct, hind angles nearly obtuse. 73. *vindicatus* Mann.

Elytral striæ deeper:

Black, basal foveæ of prothorax not punctured. 74. *ventricosus* Dej.

Bronzed, basal foveæ punctured. 75. *subexaratus* Mann.

** Base of prothorax between foveæ and angle flattened; elytra convex, scutellar stria, dorsal punctures:

Bronzed, hind angles of prothorax nearly obtuse, outer fovea wanting, inner one punctured. 76. *pinguedineus* Dej.

More brilliant green bronzed, hind angles rectangular. 77. *hyperboreus* Men.

b. Base of prothorax margined near the hind angles; legs usually ferruginous; scutellar stria generally short:

* Outer basal fovea small, but distinct, angles not carinate:

Prothorax more narrowed behind, angles rectangular, sinuosity short. 78. *hudsonicus* Lec.

Like preceding, but smaller, less convex, sides of prothorax more sinuate, though less narrowed behind; *quadricollis* Mann. 79. *similis* Mén.

Broader, and less convex, hind angles prominent, sides of prothorax more sinuate. 80. *fatuus* Mann.

** Outer basal fovea longer, hind angles subcarinate, foveæ confluent, forming a depressed space:

Hind angles slightly prominent, elytral striæ rather deep; *fuscoæneus* Chaud. 81. *riparius* Dej.

Hind angles more prominent, sides more sinuate, elytral striæ finer, especially towards the sides and tip. 82. *confusus* Mann.

** Outer basal fovea wanting, space from angle to fovea generally less flattened (thus resembling the species in (a*) but the base is margined towards the angle, and the feet are ferruginous); elytral punctures strongly marked.

Larger, hind angles of prothorax rectangular, small, and not prominent; 83. *subcaudatus* Mann.

Middle sized, hind angles of prothorax rather prominent. *a*. Hind angles somewhat less prominent; *frigidus*. 84. *empetricola* Dej.

Smaller, prothorax broader, comparatively more narrowed behind, sides suddenly sinuate, hind angles prominent; *fastidiosus* Mann., *ochoticus* Sahlb. 85. *mandibularis* Kirby.

NEW SPECIES.

2. P. TARSALIS, elongate, very depressed, parallel, black shining; prothorax quadrate, a little wider than long, feebly narrowed behind, front angles acute, apex broadly but deeply emarginate, base subsinuate, margined near the angles, which are rectangular and not carinate, basal impressions feeble, double, the outer one shorter; elytra rather broadly margined, feebly sinuate towards the tip; humeri dentiform, striæ fine but deep, impunctured, scutellar not very long, between first and second striæ; posterior tarsi rather stout, joints triangular, not grooved on the other side. Long. 16.5–19 mm.

Lake Taho Valley, Sierra Nevada. This species has the form and sculpture of *P. planctus* Lec., but is easily known by the labrum and epistoma being broadly emarginate, as in *P. morionides* Chaud., and by the tarsi being much stouter, and not grooved on the outer side. The prosternum is finely margined between the coxæ; the sides of the trunk are finely not deeply punctured; as in other Pterostichi, the last ventral segment of the ♀ is marked with two setigerous punctures, and of the ♂ with but one; in the latter sex there is also a feeble subapical concavity which is wider than long.

3. P. CRENICOLLIS, elongate, black, elytra with a feeble purplish lustre (rather dull in the ♀), prothorax quadrate, scarcely wider than long, feebly narrowed behind, rather depressed, front angles rounded at tip, tip broadly emarginate, base nearly straight, margined near the angles which are rectangular, but not sharp, broadly and feebly subcarinated, basal impressions double, the outer one shorter, sides narrowly margined, and distinctly crenate at the edge; elytra broadly rounded on the sides, distinctly sinuate near the tip, humeri dentiform, striæ deep impunctured, scutellar short,

inside of the first stria; posterior tarsi slender, with the first joint strongly grooved. Long. 17 mm.

Washington Territory and Vancouver; Messrs. Davidson and Matthews. A very distinct species by the finely crenate lateral edge of the prothorax. The ♂ has the usual anal point each side, but the ♀ has *three*, and in one specimen three on one side and four on the other.

9. P. LONGULUS, elongate, shining black, prothorax as wide as long, rounded on the sides, narrowed behind, sides not sinuate, hind angles obtuse not prominent, posterior transverse impression distinct, basal impressions long, linear, outer one wanting, base not depressed near the angles but finely margined; elytra scarcely wider than the prothorax, sides nearly straight, rounded towards the humeri, which are dentiform, striæ well impressed, obsoletely punctured, scutellar stria wanting; posterior tarsi with three joints grooved on the outer side. Long. 11 mm.

Colorado, one pair given me by Dr. S. Lewis. Very nearly allied to *P. vicinus*, but smaller and narrower, with the hind angles of the prothorax not rectangular and prominent, and the scutellar stria absent.

12. P. CASTANEUS (Dej.) I can find no substantial difference between the types of this species and P. brunneus Dej., which were sent me by Baron Chaudoir; in the latter the sides of the prothorax are a little less distinctly flattened towards the base; I also received a specimen of the latter form from Col. Motschulsky, labelled P. *vicinus* Mann., from which it differs obviously by the characters given in the preceding table.

13. P. SCUTELLARIS, elongate, pitchy black shining, prothorax as wide as long, broadly rounded on the sides, moderately narrowed behind, sides feebly sinuate near the hind angles which are rectangular, base depressed each side and finely margined, transverse impressions distinct, basal impressions rather short, outer one wanting, margin slightly explanate near the base; elytra rather flat, parallel, feebly rounded near the humeri which are prominent and dentiform, striæ well impressed, feebly punctured, scutellar long, between the first and second; posterior tarsi with the first joint feebly grooved on the outer side. Long. 9–11 mm.

Two specimens, California, Mr. G. Davidson. Closely related to *P. castaneus*, but easily distinguished by the well-marked scutellar stria. It resembles in form *P. vicinus*, but is known at once by the depressed base of prothorax, broader lateral margin, sides feebly explanate near the base, and the tarsal grooves feeble and visible on the first joint.

14. P. CALIFORNICUS Dej. An abundant species in California; *P. muticus* and *simplex* Lec. are not different; *Brachystylus amplicollis* Motsch. is a form with the prothorax a little wider and more rounded on the sides.

17. P. SPRAGUEI, very elongate, opaque black (♂); frontal impressions distinct; prothorax longer than wide, rather strongly narrowed behind, rounded and finely margined on the sides, which are feebly (but not shortly) sinuate behind; very broadly emarginate in front, with the angles rounded; base straight, not margined, angles rectangular, basal impressions long, very feeble, posterior transverse impression angulated, dorsal line fine, much abbreviated at each end; elytra elongate oval, a little wider than the prothorax, rounded at base, humeri slightly dentiform, stria fine, impunctured, rather deeper towards the tip, which is feebly sinuate, scutellar long, joined to the 1st stria; posterior tarsi with the 1st and 2d joints grooved, and the 3d more feebly so. Long. 17 mm.

Nevada, a ♂ kindly given me by Mr. P. S. Sprague, to whom I take great pleasure in dedicating it, as a mark of appreciation of his labors in the study of our Carabidæ. Dr. Horn has also received a specimen from the same region. It is as slender in form as *P. longicollis* and *Hornii*, and is easily known by the dull black color.

19. P. HORNII, very elongate, piceous black, shining (♀), frontal foveæ very indistinct, prothorax longer than wide, broadly rounded and finely margined on the sides, rather strongly narrowed behind, scarcely emarginate in front, with the angles not prominent, base straight, not margined towards the angles, which are obtuse and not rounded, basal impressions long but feeble; elytra elongate oval, scarcely wider than the prothorax, rounded at base, humeri slightly dentiform, striæ fine impunctured, rather deeper towards the tip, which is not very strongly sinuate; scutellar between first and second stria rather indistinct, moderately short; posterior tarsi with the first joint with a single feebly marked groove on the outer side. Long. 14 mm.

One female, S. E. Sierras of California, Dr. Horn. Quite distinct from all the allied species by the obtuse hind angles of the prothorax and the obsolete frontal impressions; otherwise it resembles in form *P. longicollis.*

22. P. ADOXUS Say, *subarcuatus* Lec., *rejectus* Lec., and *sustentus* Lec., are slight modifications of this species, with more or less prominent high angles of the prothorax.

35. P. CORACINUS Newman, varies in a similar manner; *adjunctus* Lec. and *moereus* Newm. (*flebilis* Lec.) are corresponding modifications. I have found the same variations in *P. stygicus* Say, but they have fortunately not received separate names.

43. P. OBESULUS, robust, oval, very shining black (♀), prothorax wider than long, rounded on the sides, which are strongly margined and towards the base widely depressed; base a little wider than the apex, straight, margined towards the hind angles, which are obtuse and slightly rounded, basal foveæ short, deep, marked with a few punctures; elytra scarcely sinuate towards the tip, humeri not dentiform, striæ deep, punctured, scutellar wanting, but indicated by the usual puncture; dorsal punctures 3, the 1st on the 3d, the others on the 2d stria, and less separated than usual; sides of trunk and abdomen punctured; tarsi not grooved. Long. 10 mm.

Georgia. A very remarkable species of which I have seen only the specimen kindly communicated by Dr. Horn.

62. P. LUSTRANS Lec. The specimens of this species from Vancouver Island, Washington Territory, are larger than those from California, but do not otherwise differ.

63. P. PENSYLVANICUS, very shining black in both sexes, prothorax with the side margin a little wider towards the base, hind angles dentiform prominent; elytra with the striæ deep, interspaces slightly convex, 3d with 5 large punctures. Long. 11 mm.

Mountains of Pennsylvania. This species is closely related to the others of the group, and especially to *P. vitreus;* it is, however, rather narrower, more shining in both sexes, and the hind angles of the prothorax are more prominent and dentiform.

69. P. CORRUSCULUS, elongate, shining black, antennæ and legs ferruginous; prothorax a little wider than long, equally narrowed at tip and base, rounded on the sides, hind angles obtuse, not prominent, transverse impressions obsolete, basal impressions long and deep, base finely margined each side; elytra with deep nearly impunctured striæ, scutellar distinct, 3d interspace with 3 dorsal punctures. Long. 5 mm.

Massachusetts. Mr. P. S. Sprague. Smaller and narrower than *P. femoralis*, with the legs entirely ferruginous. In one specimen there is a very faint and small outer basal impression.

70. *Argutor bicolor* Kirby, *ib.* The type agrees with P. PATRUELIS, except that the outer elytral striæ are less impressed, and the basal foveæ of the prothorax less deep. These differences seem to be individual.

73. P. VINDICATUS Mann. As exhibiting the uncertain and opinionative character of the species of the Cryobius group, I will give a list of the specimens upon which I have based the table above printed, and the sources from which they have been derived.

86. *A. brevicornis* Kirby, *ib.* The type seems not distinct from one specimen of *A. mandibularis;* the other specimen of the latter is more elongate, more bronzed, less convex, with the elytral striæ deeper, and dorsal punctures less evident. These differences do not seem to me specific. *P. fastidiosus* Mann. is a smaller and stouter race, with the hind angles of the prothorax less defined, and *P. ochoticus* an equally small and stout race, with the hind angles more prominent.

P. VINDICATUS, 2 spec. Chaudoir, Mnizsech. Kadjak.

P. VENTRICOSUS, 1 spec. Chaudoir. Sitka.

P. SUBEXARATUS, 2 spec. Mnizsech, Maeklin. Unalaska.

P. PINGUEDINEUS, 1 spec. Chaudoir. Sitka, 1 spec. Motsch. (as *ventricosus*).

P. HYPERBOREUS, 1 spec. Mnizsech. Island St. George.

P. HUDSONICUS Lec. 1 spec., Ulke, Hudson's Bay Terr., 3 spec. Sprague, Mount Washington, N. H.; 1 (smaller) Lake Superior; 3 sp. Motschulsky, Alaska. (2 as *pinguedineus*, 1 as *empetricola.*)

P. SIMILIS, 1 spec., Mnizsech. Island St. George; 1 Motschulsky (as *P. quadricollis*).

P. FATUUS, 2 spec. Chaudoir. Sitka.

P. RIPARIUS, 3 spec. Chaudoir. Mnizsech, Sitka, Kadjak, Kenai; and 1 spec. Motschulsky (as *P. fatuus*).

P. CONFUSUS, 2 spec. Ménétriés.

P. SUBCAUDATUS, 2 spec. Chaudoir, Mnizsech.

P. EMPETRICOLA, 1 spec. Chaudoir, Sitka; 2 Hudson Bay Terr.; 1 Motschultsky, Kenai; 2 sp. Motschulsky (1 as *fastidiosus*, 1 as *frigidus?*).

P. MANDIBULARIS, 2 spec., Lake Superior; 2 sp., Fort Simpson; 1 spec. Sprague, White Mountains, N. H.; 1 Ulke, Kenai; 2 spec smaller and stouter, Chaudoir and Mnizsech (as *P. fastidiosus*); 3 spec. smaller and stouter, with more prominent hind angles, Motschulsky, Siberia (as *P. ochoticus*).

LOPHOGLOSSUS Lec.

Obs. Posterior tarsi obsoletely grooved on the outer side of the first joint; prosternum flattened at tip, but not margined; prothorax strongly margined, basal foveæ deep, hind angles not carinate; elytra feebly sinuate at tip, marginal stria single, scutellar stria long, dorsal punctures three; metathoracic episterna long.

Differs from Pterostichus § 3, G, (Omaseus), chiefly by the prothorax more strongly margined, hind angles not carinate, and by the ligula being obtusely carinated for its whole length; the last character being the only one which for convenience may be assumed to have generic value.

A. Hind angles of prothorax rectangular, sides sinuate towards the base; middle tibiæ of ♂ armed with a subapical tooth on the inner side, more or less distinct, and an apical process.

a. ♂ ♀ not very brilliant, elytra of ♀ dull.

Larger sides of prothorax scarcely sinuate behind; middle tibiæ of ♂ with an acute, apical process, and obsolete subapical tooth.
Haldemani Lec.

Large, sides of prothorax distinctly sinuate towards the base middle tibiæ of ♂ with an obtuse subapical tooth, and a large acute apical process, *complanata* Dej. *tartaricus* (Say.)

b. ♂ ♀ moderately and equally brilliant; sides of prothorax distinctly sinuate behind; middle tibiæ ♂ with an acute subapical tooth, apical process wanting. *strenuus* Lec.

c. ♂ ♀ very brilliant, as if varnished; sides of prothorax distinctly but less strongly sinuate, middle tibiæ of male with acute subapical tooth and feeble obtuse apical process. α. Hind angles of prothorax less prominent, *canadensis* Chaud. *scrutator* Lec.

B. Hind angles of prothorax obtuse, sides more widely reflexed behind; elytra ♂ dull, middle tibiæ without subapical tooth and but feeble apical process. *gravis*, n. sp.

L. gravis, black, moderately shining, elytra (♂) less shining, form and sculpture as in L. tartaricus, except that the sides of the prothorax are simply rounded, not at all sinuate near the hind angles, which are obtuse; the lateral margin is rather more widely reflexed behind. Long. 19 mm.

One ♂ in the collection of Dr. Horn, probably found in Pennsylvania. With the general form and appearance of *L. tartari-*

cus, this species has nearly the sexual characters of *L. Haldemani;* that is to say, the tooth on the inner side of the middle tibiæ of the male is obsolete, and the apical tooth or process is small and acute, though much less developed.

LOXANDRUS Lec.

I have not had access to a sufficient number of specimens to enable me to make a revision of the species of this genus, which seem to be in part at least, indefinite and opinionative.

The following species have not been identified:—

FERONIA CARBONARIA Dej.

F. EBENINA Dej.

BRACHYSTYLUS PARALELLUS Motsch.

BRACHYSTYLUS CURTIPENNIS Motsch.

F. (HYPHERPES) SEJUNGENDA Chaud. Rev. et Mag. Zool. 1868.

F. PRÆTERMISSA Chaud. ibid.

OMASEUS NIGRITA ‡ *Kirby*, Fauna Bor. Am. The type in the British Museum examined by me is larger than P. CAUDICALIS, and differs by the prothorax more narrowed behind, the hind angles smaller, and the two striæ of the basal foveæ not connected by a hooked line.

F. MONEDULA Newm. Ent. Mag. V. 386. Type not in the British Museum; referable probably to CORACINUS Newm.

ARGUTOR LINEARIS Mannh. Bull. Mosc. 1853, 126.

P. RUGULOSUS (Motsch.) Mannh. ibid. 1852, 296; *Steropus rug.* Motsch. ibid. 1845, iv. 342; *Steroderus rug.* Motsch. Käfer Russl. 55.

P. FUSCOÆNEUS Mannh. Bull. Mosc. 1843, 203; *Omaseus fusc.* Chaud. Ann. Ent. Soc. Tr. iv. 448; Chaud. Rev. and Mag. Zool. 1868, = riparius f. Chaud.

OMASEUS RUFISCAPUS Mannh., Bull. Mosc. 1853, 126; *Cryobius ruf.* Chaud. Rev. and Mag. Zool. 1868.

F. (CRYOBIUS) RUFICOLLIS Mannh. ib. 1853, 131; near *empetricolla* fide Chaud. Rev and Mag. Zool. 1868.

F. (C.) ROTUNDICOLLIS Mannh. ibid. 1853, 132.

F. (C.) SUBSINUOSA Chaud. Rev. and Mag. Zool. 1868.

F. (C.) ARCTICOLA Chaud. ibid.

F. (C.) LABRADORENSIS Chaud. ibid.

F. (C.) DIPLOGMA Chaud. ibid.

EVARTHRUS Lec.

Obs. Posterior tarsi not grooved on outer side; prothorax variable; elytra with rounded humeri, and one dorsal puncture, scutellar stria usually short or punctiform, rarely long; metathoracic episterna short; first ventral segment margined at the base; prosternum not margined behind.

A. Prosternum deeply sulcate, emarginate at tip; prothorax quadrate, feebly narrowed and not constricted at base; basal foveæ large and deep, bistriate with a supplementary inner fovea, hind angles carinate; base finely margined each side.

a. Hind angles obtuse, sides not sinuate near the base; marginal striæ approximate:

* Prothorax wider than long, scutellar stria wanting:

Prothorax more widely margined, especially towards the base:

Elytral striæ strongly punctured; ♂ ♀ dull. 1. *seximpressus* Lec.

Prothorax more narrowly margined:

Elytral striæ strongly punctured, ♀ dull, ♂ subopaque; *vidua* Dej.
2. *sigillatus* Say.

Broader, elytral striæ finely punctured, hind angles of prothorax less obtuse, ♀ ♂ subopaque. 3. *americanus* Dej.

** Prothorax as long as wide:

Scutellar stria long, hind angles obtuse, somewhat rounded, less strongly carinate; elytral striæ finely punctured, ♂ dull; *conviva* Lec.
4. *orbatus* Newm.

b. Sides of prothorax slightly sinuated near the base, hind angles rectangular; scutellar stria wanting:

* Hind angles very small:

Prothorax more widely margined towards the base, elytra ♀ subopaque, marginal striæ approximate. 5. *Engelmanni* Lec.

Prothorax less widely margined; elytra ♀ very dull, marginal striæ less approximate. 6. *nonnitens* n. sp.

** Hind angles more prominent, more strongly carinate:

Elytra ♂ ♀ shining; marginal striæ not approximate. 7. *gravidus* Hald.

B. Prothorax strongly constricted behind, sides suddenly strongly sinuate, hind angles rectangular prominent, carinated, basal foveæ deep, bistriate, base margined each side; prosternum feebly or only obsoletely sulcate.

a. Elytra feebly sinuate at tip, ♀ subopaque;

Very large shining, striæ nearly effaced punctured, scutellar long; hind angles of prothorax very prominent. 8. *heros* Say.

Striæ distinct, punctured, scutellar short:

Hind angles of prothorax very prominent. 9. *colossus* Lec.

Hind angles shorter and less prominent:

Sides of prothorax very much rounded; *fatuus* Lec., *corax* Lec., *orbatus*‡ Lec. 10. *sodalis* Lec.

Sides of prothorax more oblique, less rounded. 11. *furtivus* Lec.

b. Elytra strongly sinuate towards the tip :

Large, sides of prothorax very much rounded, basal angles longer, more prominent, more strongly carinated. 12. *Sallei* Lec.

Smaller ; (species very indefinite and opinionative) :

Anterior transverse impression well defined ; hind angles longer, prominent.

Broader, elytral margin stronger, subangulated at the humeri, (elytral striæ sometimes effaced), *latebrosus* Lec. 13. *substriatus* Lec.

Narrower, elytral margin finer, not angulated, (elytral striæ sometimes partly effaced), *ovipennis* Lec. 14. *constrictus* Say.

Anterior transverse impression feeble, or obsolete, hind angles shorter, though prominent, legs ferruginous, *abdominalis* Lec. *lixa* Lec. 15. *incisus* Lec.

Anterior transverse impression obsolete, hind angles very small, scarcely carinate, outer basal stria punctiform. 16. *vinctus* Lec.

C. Prothorax strongly rounded on the sides and narrowed behind, basal foveæ single, hind angles not carinate, obtuse or very small, and feebly prominent.

a. Prosternum feebly or obsoletely sulcate behind :

* Anterior transverse impression feeble :

Elytra tolerably strongly sinuate towards the tip :

Large, hind angles small, nearly rectangular. 17. *unicolor* Say.

Large, hind angles small obtuse. 18. *rotundatus* Lec.

Middle sized, hind angles small obtuse ; *Brevoorti* Lec. 19. *spoliatus* Newm.[1]

Smaller ; elytra less sinuate towards the tip :

Hind angles small, prominent, rectangular, *ovulum* Chaud. 20. *acutus* Lec.

Hind angles obtuse and rounded, basal foveæ small :

Basal seta of prothorax in front of angle, elytra striate. 21. *obsoletus* Say.

Basal seta of prothorax at the angle as usual ; elytra nearly smooth. 22. *lævipennis* Lec.

** Anterior transverse impression a finely impressed line near the front margin. 23. *approximatus* Lec.

b. Prosternum more deeply sulcate behind ; hind angles of prothorax obtuse, not prominent :

* Anterior transverse impression a deep line, further from the front margin than in the preceding :

Elytra smooth, or very obsoletely striate. 24. *morio* Dej.

** Anterior transvèrse impression not impressed :

Elytra with punctured striæ, fainter behind, but not obliterated ; *tenebrosa* Dej. 25. *faber* Germ.

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[1] This name seems to belong more properly to this species than to *E. faber*, to which I formerly referred as a synonym.

Feronia (Evarthrus) DILIGENDA Chaud. does not belong to this genus, but will be found in Pterostichus next to *P. mancus* Lec.

5. E. VAGANS Lec. Closely related to *E. Engelmanni*, and differs only in small size, less stout form, and more finely margined prothorax.

6. E. NONNITENS, opaque black, elytra (♀) entirely without lustre, flat, prothorax wider than long, rounded, and rather strongly margined on the sides, which are very shortly sinuate behind, hind angles rectangular, base not narrower than apex; front transverse impression deep, hind one well marked, basal foveæ deep bistriate, with a short external carina; elytra oval, scarcely wider than the prothorax, humeri broadly rounded, tip scarcely sinuate, striæ fine, punctured, marginals not approximate, interspaces broad and flat, third with the usual puncture; prosternum very deeply sulcate. Long. 18 mm.

One specimen, Red River, Louisiana. A very distinct species by the less convex form, and extremely dull color.